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AUDIOVOX®
ELECTRONICS CORP.

Vehicle Wireless Rear Observation System
Model:ACA240
Installation/User Manual

Features:

- 2.5" LCD Color Display
- 2.4 GHz Wireless Receiver and Transmitter
- Automatically Displays Image when Vehicle is in Reverse
- Adjustable Camera Angle
- Monitor Mounts on Dash or Windshield

AUDIOVOX

12 MONTH LIMITED WARRANTY

Applies to Audiovox Mobile Video Products

AUDIOVOX ELECTRONICS CORP. (the Company) warrants to the original retail purchaser of this product that should this product or any part thereof, under normal use and conditions, be proven defective in material or workmanship within 12 months from the date of original purchase, such defect(s) will be repaired or replaced with reconditioned product (at the Company's option) without charge for parts and repair labor. A game controller, if supplied, is similarly warranted for ninety (90) days.

To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), specification of defect(s), transportation prepaid, to the Company at the address shown below.

This Warranty does not extend to the elimination of externally generated static or noise, to correction of antenna problems, to costs incurred for installation, removal or reinstallation of the product, or to damage to digital memory/media devices, gaming devices, discs, speakers, accessories, or vehicle electrical systems.

This Warranty does not apply to any product or part thereof which, in the opinion of the Company, has suffered or been damaged through alteration, improper installation, mishandling, misuse, neglect, accident, or by removal or defacement of the factory serial number/bar code label(s).THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASER FOR THE PRODUCT.

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Warnings

This product is intended to assist in safe driving and to allow the driver to have a broader rear view while the vehicle is in reverse. You, as the driver, are solely responsible for the safe operation of your vehicle and the safety of your passengers according to your local traffic regulations. Do not use any features of this system to the extent it distracts you from safe driving. Your first priority while driving should always be the safe operation of your vehicle. Audiovox Electronics Corporation cannot accept any responsibility whatsoever for accidents resulting from failure to observe these precautions or safety instructions.

1. This product utilizes high voltage. Any unauthorized modifications or damage to the product may result in electrical shock. Handle all components with care. Inspect regularly for damage to components and cabling.

2. You are responsible for ensuring that the installation of this product does not void or affect the vehicle manufacturer's warranty. Audiovox Electronics Corporation or its subsidiaries are not liable in full or in part for improper installation resulting in loss or damage to your property, or for voiding all or part of the vehicle manufacturer's warranty.

3. Do not apply excessive force to any of the components contained within this kit. Excessive force used before, during or after installation that results in a damaged or non-functional part will void all warranties.

4. Please follow the procedures in this installation manual. Improper installation or modification of this product will void all warranties.

Many jurisdictions have laws and regulations relating to the use of cameras and some do not allow for the obstruction of information contained on a license plate. Before using this product, it is the buyer's responsibility to be aware of and comply with any applicable laws and regulations that apply to license plates or may prohibit or limit the use of cameras.

Maintenance

Though your monitor requires little care, you will still need to maintain its condition and performance by following the guidelines below.

- Keep your system away from excessive moisture, extreme heat or cold.
- Keep liquids away from the display.
- Occasionally clean the surface of the monitor with a soft cloth moistened with water or glass cleaner.

Troubleshooting

Symptoms	Solutions
The Monitor is not on after the vehicle is started and the vehicle is in reverse	1.Check the monitor wiring and connections 2.Check the fuse in the Cigarette lighter adapter 3.Check the power connection on the camera at the reverse lamp
Video image is not sharp enough	Clean the camera lens with a soft cloth.
The Monitor Stays on all the time, or runs when the vehicle is not in reverse.	The Camera is not wired correctly. If the camera continues to transmit while not in reverse gear, re-check your wiring at the reverse lamp.
The monitor is very dark or the image changes slowly	In extreme cold or hot conditions the LCD screen may react slowly. This is normal and will clear as the vehicle cools or warms to a normal temperature.

Specifications

General

Power Supply	DC12V
Power Consumption	<6W
Current Draw	<400 mA
Operating Temperature Range	0℃ to 50℃
Fuse	2 Amps

Display System

Screen	2.5" LCD Color
Brightness	400 cd/㎡
Contrast Ratio	150:1
Backlight Life	10000 hours
Resolution	960×234
Video Format	NTSC
Display Format	16 : 9

Wireless Reception System

Operating Frequency	2.4GHz
Maximum Range	15 Feet

Range depends on installation, vehicle type, interference, and other 2.4 GHz signals in the area that can affect the signal quality.

Product Description

The ACA240 Wireless Vehicle Rear Observation System is designed to assist the driver by providing a clear and wide image of the area behind the vehicle whenever the vehicle is shifted into reverse. Never rely solely on this product to ensure the area is clear of children and/or obstructions. Use your monitor and look both ways. This product is not intended to replace existing safety procedures, but rather to add an additional safety tool for your vehicle.

CAUTION: Do not back up your vehicle while watching the monitor screen. Always look in the direction the vehicle is traveling. Use the monitor as an aid to ensure there are no children or obstructions. The image on the monitor is not designed to show distance and may be mis-leading. The actual distance is less than appears in the monitor. The range of the image is limited. Be aware of blind spots.

Packing List

The model ACA-240 monitor package consists of the following items:

1. LCD Wireless Reception Monitor -1 qty Part # 31262030
2. Wireless Camera - # 31262040
3. 2.5m Power Supply Cable for Monitor -1 qty Part # 31262200
4. 7m Power Supply Cable for Camera -1qtyPart # 31262190
5. 2.5m Cigarette Lighter Cable -1 qty Part # 31262210
6. Hardware Bag Contains: Part # 31262010
   a)6mm x 30mm Bolts -2 qty
   b)6mm Nuts -2 qty
   c)6mm Flat Washers -4 qty
   d)6mm Lock Washers -2 qty
   e)Tap Connectors -2 qty
   f)Double Sided Mounting Tape -1qty
7. Installation/Users Manual -1 qty Part # 31262020

Installation Instructions

COMPLETELY READ THIS MANUAL BEFORE INSTALLATION

NOTE: We have included all of the items needed for most standard installations, but all vehicles are different. We recommend you review your vehicle completely before starting.

Monitor Installation

Mounting the Monitor

The monitor with flexible mounting pad and double sided tape mounts on either the vehicle windshield or dashboard.

Note: The double sided tape supplied is extremely strong. Be sure of the position before mounting. The Windshield MUST be clean and you MUST apply pressure to the mount to make sure the tape holds.

1. Choose a monitor location in your vehicle that does not block your view and complies with local laws for safe driving..
2. Clean the monitor base and mounting area with a cleaner that does not leave a residue.
3. Remove the protective film from one side of the double sided tape and apply to the bottom of the monitor base. Next, remove the protective film from the other side of the double sided tape and carefully position the monitor and press into place.

Electrical Connections

The monitor can be powered two ways:

1. **Cigarette Lighter Adapter**: Plug the cigarette lighter adapter into the vehicle's cigarette lighter socket, and then insert the 2.5mm plug into the power supply jack on the monitor.

Note: Because this is a wireless system, the monitor is always watching for a video signal. It is possible to receive signals from other cameras. Systems such as Security camera's, Baby monitors, and even other Back up camera systems can trigger the monitor to briefly turn on. This is normal for wireless products. If you find you have too much activation due to video signals in your area, use the included Monitor Power wire and run it to the rear of the vehicle. Attach it to the same power source as the camera, this will insure the monitor will only come on when you are in reverse and will eliminate any false signals.

Testing the System

To test the Wireless Vehicle Rear Observation System installation, perform the following steps:

1. Set the parking break.
2. Start the vehicle.
3. Shift the vehicle into reverse.
4. Verify that the monitor displays the image from the rear camera.

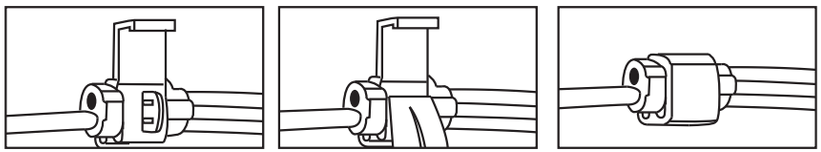
If the monitor does not operate, refer to the trouble shooting section of the manual.

6.Using the tap connector supplied, perform the following steps:

i. Place the un-stripped positive lead wire on the run channel.
ii. Insert the un-stripped red power wire completely.
iii. Fold the tap connector back over the wires and make the connection by crimping the u-contact down flush with the plastic insulator.
iv. Close the top hinged cover until latched.

7.Attach the black wire to the ground.

i. Place the un-stripped ground lead wire on the run channel.
ii. Insert the un-stripped black ground wire completely.
iii. Fold the tap connector back over the wires and make the connection by crimping the u-contact down flush with the plastic insulator.
iv. Close the top hinged cover until latched.



Operating the System

The Wireless Vehicle Rear Observation System operates when the vehicle is shifted into reverse. The Camera transmits a clear and wide image from the area behind the vehicle to the Monitor inside the vehicle. The monitor, when powered, remains in sleep mode until it receives a video signal on the 2.4GHz frequency. When the monitor receives a video signal, it automatically turns on and displays the image from the camera.

The monitor automatically adjusts for color, brightness, and contrast, for either daytime viewing or night time viewing. At night the picture will look more like a Black & White image; this is due to the low light level and is normal.

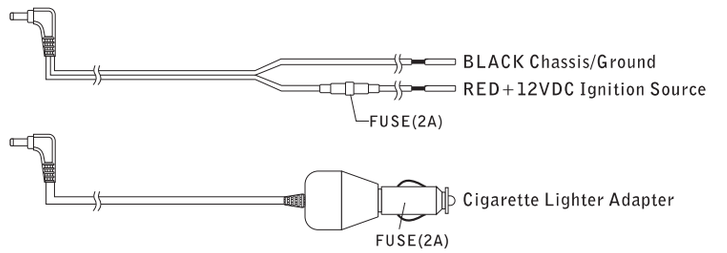
2. Advanced Hard Wire Installation: Audiovox recommends using a qualified professional for the Hard Wired cable installation.

CAUTION: Insure that all wires are run safely and do not interfere with Airbags, Safety Devices, or any other equipment.

a) Choose a source that only has power when the vehicle ignition is on. Check with a meter or test lamp (can be purchased at an auto parts store). After determining your power location; turn off the ignition and disconnect the battery to insure your safety.
b) The Red wire on the Monitor Power Harness is the ignition or +12 volt lead. This must be connected to the power source or fuse box location that you have chosen to use. Insure the connection is covered or protected so it can not short circuit.
c) The Black wire on the harness is to be connected to any -12 volt ground lead or a solid metal location in the vehicle. Also test your location to insure a good solid ground. Just because it is metal does not mean it is a good ground.
d) Plug the power plug into the monitor power supply jack.

After the monitor Installation is complete remove the protective plastic cover from the panel.

Figure 3 *(Electrical Connections)*



NOTE: When using the Cigarette Lighter Adapter, if the Red Power Indicator stays on after you turn your ignition key off, you will want to unplug the adapter to insure that your vehicle battery does not run down when parked for extended periods of time.

To replace the fuse in the Cigarette lighter adapter, unscrew the tip. Replace only with the same rating of fuse or damage may incur.

Camera Installation

1. Remove the rear license plate to determine the best way to run the power wires to the reverse lights. It is important to use the Reverse lights and not the License Plate illumination lamp or any other. The system is designed to come on when the vehicle is in reverse gear only. Improper installation can cause the system to not work or to run at undesired times.

Note: All vehicles are designed differently. We offer some general installation advice here, but check and re-check you installation before starting. Some vehicles may have the license plate on the tailgate and the Reverse lights may be located on the vehicle pillar. In this case you will need to study your vehicle closely to determine the best route for the power wire. In some vehicles you may need to extend the power wire to reach the reverse lamps. Power wire can be purchased at an auto parts store or hardware store if this is needed. Most installations can be completed by running the power cable behind the trunk or tailgate rubber gasket, tucking it under the interior trim panel and either connecting at the back of the reverse lamp in the trunk or removing the reverse lamp assembly (the same procedure as required to replace the light bulb).

2. The camera cable can be routed as recommended above or through an existing wire grommet to reach the interior of the vehicle. If an existing grommet is not available to use, you can drill a hole behind the license plate to access the vehicle. Purchase a rubber grommet from an auto parts store to protect the wire from the sharp edges of a hole if you drill one.. The rubber grommet must be a minimum of 13/32" to allow the wire and fuse holder to pass through it.Besure to check behind the intended drilling location before drilling

to ensure no wires or mechanisms interfere or could be damaged during drilling. Check for interference with license plate lights and the hatch release switch or mechanism. If not using an existing factory grommet, drill a hole to match the rubber grommet size that you intend to use (13/32" minimum) at the selected location near the vehicle's rear license plate. Route the camera cable connector through the grommet and insert the grommet into the hole to prevent water from entering into the vehicle.

3. Now leave enough wire to route behind the license plate. Place the license plate over the opening and line up the holes. Fasten the camera mounting bracket and the license plate to the vehicle. Use either the lower mounting holes or the upper on the license plate making sure that you do not block any information on your plate that is required by your state laws to be shown.

4. Continue to run the power harness for the camera to the vehicle's reverse lamp. NOTE: If this is a very short distance, be sure to extend the power cable that comes attached to the camera completely. The antenna for the camera is located in the harness.

5. Locate the reverse lamp in the tail light assembly. Generally the Positive wire on the reverse lamp will be a colored wire and the Negative will be a Black wire. If you would like to insure the wires are correct; first engage the emergency brake on the vehicle. Make sure the car is not running but the ignition is switched on and have another person engage the brake pedal, shift into reverse and insuring your safety, check the wires with a test lamp.

Once you have confirmed the positive and negative connection point, place the vehicle in park, shut off the ignition, and proceed.